

Appl. No. 10/578,523
Amdt. Dated August 21, 2007
Reply to Office Action of May 14, 2007

REMARKS

Reconsideration of the application is requested.

Applicants appreciatively acknowledges the Examiner's confirmation of receipt of applicants' claim for priority under 35 U.S.C. § 119(a)-(d).

Claims 9-15 and 17 remain in the application. Claims 9-15 and 17 are subject to examination. Claim 9 has been amended. Claims 1-8 and 16 have been/were previously canceled.

Under the heading "Claim Rejections - 35 USC § 103" on pages 2-4 of the above-identified Office Action, claims 9-17 have been rejected as being obvious over U.S. Patent No. 6,211,478 to Schoenemann et al. (hereinafter Schoenemann) in view of U.S. Patent No. 2,504,906 to B.G. Tremblay (hereinafter Tremblay) under 35 U.S.C. § 103.

Schoenemann teaches a switching device (Fig. 1) having first and second arcing contact pieces 11, 14 as well as first and second rated current contact pieces 6, 8 (33, 34 Fig. 3a, 3b, see the design of the switching device with regard to the contacts, column 3, lines 20-43). The first

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and second arcing contact pieces and the first and second rated current contact pieces are aligned coaxially to the axis 2 in accordance with Fig. 1. According to column 5, lines 30-31, the rated current contact piece 34 is described as a contact ring and is illustrated in Figs. 3a, 3b in different views. The contact ring 34 is thus a hollow cylindrical basic body with a front at an end facing a switching piece of the switching device. The front side of the basic body is equipped with a protective layer 37 according to Fig. 3 as well as column 5, lines 30-35. The protective layer is applied by plasma spraying. The protective layer 37 serves as an arc-resistant material.

In accordance with column 5, lines 34-38, the region above the protective layer 37 is provided with a silver-coated contact zone 38.

Such a construction is used for protecting the surface of the contact ring 34 against contact erosion by means of the protective layer 37 when sliding on the power-switch fingers 33. Following the push-on direction is the silver-coated (contact) zone 38 for achieving good contact transfer from the power-switch fingers 33 to the contact

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ring 34 in the activated state of the switching device.

Typically, arc-resistant materials are not coated with a silver-coated layer or the like. It is assumed that a silver coating will erode quickly on the arc-resistant material due to the rough conditions of use.

In accordance with column 1, lines 15-20 of Tremblay, the production of electrical contact members is desired, which have the good contacting properties of metals such as copper, silver or gold and the arc-resistant properties of materials such as wolfram, molybdenum or wolfram carbide.

In accordance with column 1, lines 34-40, it is often desirable to apply a metallic coating onto the surface of such a material (wolfram or molybdenum) by electroplating. However, it is difficult to apply metals with sufficient bonding onto materials such as wolfram and molybdenum.

Tremblay suggests a solution to solve this problem. In accordance with column 4, lines 18-36, a composition material 14 is applied onto a carrier 12 made of a material with good electrical properties such as copper, the composition material consisting of an inherent mixture of electrically well conducting materials with a fire-resistant metal. In accordance with column 4, lines 58-

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60, the composition material 14 has been coated in a galvanic bath with a silver-coated layer 16. In compliance with column 4, lines 64-70 the silver-coated layer resists electrical arch and mechanical impacts without destruction or other incidents.

Schoenemann describes the current contact piece 34 having an arc-resistant material 37, which protects the front of a hollow cylindrical basic body 34. An interface is formed between the arc-resistant material 37 and the silver-coated layer 38, which does not extend on the arc-resistant material 37 but above the latter on the rated current contact piece 34. When sliding on the contact fingers 33, they glide at first above the arc-resistant material 37 in order to then enter into the contact region (zone) of the silver-coated layer 38. In doing so, the interface between the arc-resistant material 37 and the silver-coated layer 38 is overcome. The interface as a weak point is subject to particularly high wear and tear in the contacting system.

Thus, starting out from Schoenemann, the problem arises to provide a contact point for a switching device with a first and a second arcing contact piece and a first and a

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second rated current contact piece, the contact point
having a longer life span and ensuring improved electrical
contacting.

In order to provide the longer life span, the invention of the instant application makes provision for arranging the arc-resistant material (e.g. layer 37 in Schoenemann) so that the contacting points of the rated current contact pieces lie in the region of the arc-resistant material in the activated state.

The fact that the current contact pieces contact each other in the region of the arc-resistant material in the activated state is described, for example, in the specification on page 9, lines 18-21, as well as illustrated by the region 11 in the appertaining Fig. 1.

Since, according to the invention, the entire region provided for sliding on and for electrically contacting the rated current contact pieces is designed identically (arc-resistant material having an electroplating), a surface without an interface is guaranteed. In this way, a surface is formed which resists signs of wear and tear on the one hand and, on the other hand, shows improved

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electrical properties. Claim 9 of the instant application has been amended with the features from claim 16 to support applicants' arguments. Claim 16 has been canceled.

Schoenemann, however, relies on a different design of the protective region 37 and the contact zone 38. The two zones 37 and 38 abut bluntly so that an interface is formed. The interface is a weak point in the contact system. After repeated sliding over the interface, the interface is subjected to higher wear and tear than the joining contact zones 38 or protective zones 37. This causes the durability of the contacting system according to Schoenemann to be limited greatly by the interface.

Even though Tremblay describes an electroplating of a refractory material, Tremblay cannot give any hints as to the configuration of a rated current contact piece of a switching device in accordance with amended claim 9 of the instant application.

Even a combination of the Schoenemann and Tremblay would not lead to a switching device in accordance with amended claim 9. The treatment of a refractory material disclosed

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in Tremblay would be transferred to the zone 37 of Schoenemann so that the zone 37 would be provided with a silver-plating. Unaffected thereby, the division into a contact zone 38 and a protective zone 37 would remain. The zones 37, 38 would continue to have a different design so that the problem of the interface would still exist.

Since a combination of Schoenemann with Tremblay would not solve the problem of the interface between the zones 37 and 38, it can also not lead to a switching device having the features of the amended claim 9.

It is accordingly believed to be clear that none of the references, whether taken alone or in any combination, either show or suggest the features of claim 9. Claim 9 is, therefore, believed to be patentable over the art. The dependent claims are believed to be patentable as well because they all are ultimately dependent on claim 9.

In view of the foregoing, reconsideration and allowance of claims 9-15 and 17 are solicited.

Petition for extension is herewith made. The extension fee for response within a period of one month pursuant to

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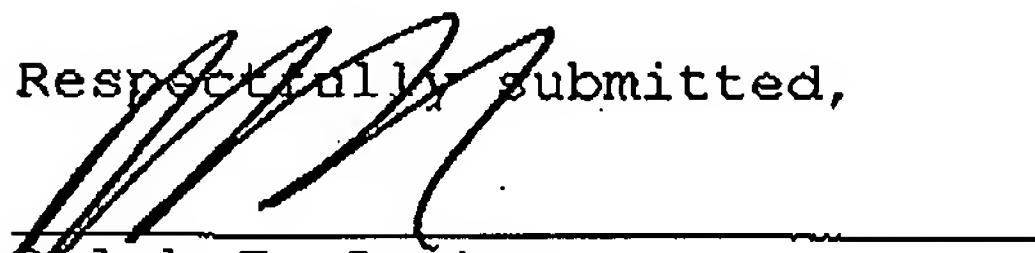
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AUG 21 2007

Section 1.136(a) in the amount of \$120.00 in accordance
with Section 1.17 is enclosed herewith.

Please charge any other fees that might be due with
respect to Sections 1.16 and 1.17 to the Deposit Account
of Lerner Greenberg Stemer LLP, No. 12-1099.

Respectfully submitted,


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REL:cgm

August 21, 2007

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